

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-7 (Cancelled)

Claim 8 (Previously presented): A vaccine vector comprising an isolated nucleic acid molecule which encodes:

- (a) SEQ ID No: 2;
- (b) SEQ ID No. 4; or
- (c) SEQ ID No. 6;

wherein the nucleic acid molecule is operatively linked to a promoter for expression of the polypeptide in a mammalian cell.

Claim ¹⁶~~9~~ (Previously presented): The vaccine of claim ²~~4~~ wherein the additional polypeptide is a *Chlamydia* polypeptide.

Claim 10 (Previously presented): A pharmaceutical composition comprising a pharmaceutically acceptable carrier or diluent suitable for use in a vaccine and a nucleic acid molecule comprising a nucleic acid sequence which encodes:

- (a) SEQ ID No: 2;
- (b) SEQ ID No. 4; or
- (c) SEQ ID No. 6;

wherein the nucleic acid molecule is operatively linked to a promoter for expression of the polypeptide in a mammalian cell.

Claim 11 (Previously presented): A vaccine comprising the vaccine vector of claim 8 and a pharmaceutically acceptable carrier.

Claims 12-25 (Cancelled)

26. (Previously presented) A method for preventing or treating *Chlamydia pneumoniae* infection comprising the step of administering an effective amount of a nucleic acid molecule which encodes:

- (a) SEQ ID No. 2;
- (b) SEQ ID No. 4; or
- (c) SEQ ID No. 6;

wherein the nucleic acid molecule is operatively linked to a promoter for expression of the polypeptide in a mammalian cell.

27. (Previously presented) A method for preventing or treating *Chlamydia pneumoniae* infection comprising the step of administering an effective amount of the vaccine vector of claim 8.

28. (Previously presented) A method for preventing or treating *Chlamydia pneumoniae* infection comprising the step of administering an effective amount of the pharmaceutical composition of claim 10.

Claims 29-34 (Cancelled)

35. (Previously presented) The vaccine vector of claim 8 which is expression plasmid pCACPNM555a, pCAI555 or pCAD76kDa.

Claims 36-38 (Cancelled)

Claim 39 (Previously presented): The vaccine vector of claim 8 wherein the promoter is cytomegalovirus promoter (CMV).

¹⁰
Claim ~~40~~ (Previously presented): The vaccine of claim ~~46~~² wherein the promoter is cytomegalovirus promoter (CMV).

Claim 41 (Previously presented): The composition of claim 10 wherein the promoter is cytomegalovirus promoter (CMV).

Claim 42 (Previously presented): The vaccine of claim 11 wherein the promoter is cytomegalovirus promoter (CMV).

Claim 43 (Previously presented): The method of claim 26 wherein the promoter is cytomegalovirus promoter (CMV).

Claim 44 (Previously presented): The method of claim 27 wherein the promoter is cytomegalovirus promoter (CMV).

Claim 45 (Previously presented): The method of claim 28 wherein the promoter is cytomegalovirus promoter (CMV).

Claim 46 (Currently amended): A vaccine comprising the vaccine vector of claim 8 wherein the vaccine ~~optionally~~ comprises an additional nucleic acid encoding an additional polypeptide which enhances the immune response to the polypeptide of SEQ ID No: 2, SEQ ID No. 4, or SEQ ID No. 6.